Faculty of Information and Communication Engineering

B.E. Medical Electronics Engineering

(R 2021) Semester – II

Course Code: BM3271	**Course Title: BIOSCIENCES LABORATORY**	
Sl. No.	**Description of Equipment**	**Required numbers (for batch of 30 students)**
1.	Colorimeter	2 Nos
2.	Spectrophotometer	1 No.
3.	pH meter	1 No
4.	Weighing balance	1 No
5.	Refrigerator	1 No
6.	SDS gel electrophoresis	1 No
7.	TLC, ready TLC plates	1 No
8.	Wintrobe's tube	2 Nos
9.	Centrifuge Normal	1 No
10.	Microslides	2 packets
11.	Lancet	5 boxes
12.	Microscope	1 No
13.	Neubaur's Chamber	2 Nos
14.	Heparinized Syringe	1box
15.	Haemoglobinometer	1 No
16.	Capillary tubes	1 box

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(R 2021) Semester – III

BM3361 Fundamentals of Electronic Devices and Circuits Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students
1.	PN Junction Diode	15
2.	Zener Diode	15
3.	Basic BJT transistors	Each 20
4.	Regulated Power supply	15
5.	Step down transformer/Centre tapped Transformer	Each 10
6.	Resistors (100Ω-1M Ω)	Each 50
7.	Potentiometer (100Ω-1M Ω)	Each 10
8.	Bread Board	30
9.	Trainer kit	15
10.	Capacitor0.01μF-1000 μF	Each 15
11.	Silicon controlled rectifier	15
12.	Photo diode	15
13.	Multi-meter	30

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(R 2021) Semester – IV

MD3411 Analog and Digital Electronics Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students
1.	Bread Board	30
2.	Digital Trainer kit	15
3.	IC741	100
4.	AD620-Instrumentation Amplifier	30
5.	Resistors (100Ω-1M Ω)	Each 50
6.	Potentiometer(100Ω-1M Ω)	Each 10
7.	Capacitor0.01µF-1000 µF	Each 15
8.	Basic BJT transistors	Each 20
9.	IC555 timer	50
10.	Digital IC Logic gates	Each 50
11.	Regulated Power supply	15
12.	LM317 and LM723	Each 15
13.	IC7483	Each 15
14.	Multi-meter	15

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(R 2021) Semester – IV

MD3412 Biomedical Sensors and Instrumentation Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students
1.	Pulse sensor, Galvanic skin Response, Glucose sensor, EMG sensor, e-health shield, MQ3 Alcohol sensor	Each 10
2.	Maxwell Bridge-Trainer kit	2
3.	Hays Bridge-Trainer kit	2
4.	Wheat stone bridge-Trainer kit	2
5.	Kelvins Double Bridge-Trainer kit	2
6.	Schering Bridge	2
7.	Temperature Measurement-RTD, Thermocouple, Thermistor-Trainer kit	Each 2
8.	Basic ECE/EMG/EEG Amplifier-kit	Each 1
9.	Sphygmomanometer	2
10.	PH measuring unit	2
11.	Respiration rate measuring sensor	2
12.	Stethoscope	2
13.	Pulse oximeter with SpO2 measurement	2
14.	Battery operated regulated power supply	15
15.	LabVIEW software/Simulation software	1
16.	Personal Computers	4
17.	DSO	5
18.	IC741	100

19.	AD620	50
20.	Resistor(100Ω-100M Ω)	Each 50
21.	Capacitor0.01μF-1000 μF	Each 15
22.	Decade resistance, capacitance and Inductance box	Each 5
23.	Arduino and Raspberry Pi	Each 10
24.	Bread Board	30
25.	Electrode leads	10
26.	Surface electrodes	300
27.	Electrolyte gel	3bottles

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(R 2021) Semester – V

BM3562 Embedded systems and IOMT Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students
1.	AVR/ARM processor	15
2.	Personal Computers	15
3.	ECG sensor, Pulse sensor, Temperature sensor, IR LED	Each 10
4.	Arduino and Raspberry Pi	Each 10
5.	DSO	10
6.	LED	50
7.	Buzzer	10
8.	IC relating IoT	25
9.	Stepper motor	5
10.	DC motor	5
11.	DHT11 sensor	10

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(R 2021) Semester – V

BM3561 Diagnostic and Therapeutic Equipment Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	EEG measurement system with visual evoked potential	1
2.	ECG measurement system	1
3.	EMG Measurement system	1
4.	Galvanic skin resistance measuring system	1
5.	Shortwave and ultrasonic diathermy measuring system	1
6.	Electrical safety measurements	1
7.	Medical stimulator	1
8.	Electrosurgical Unit	1
9.	Audiogram-measuring system	1
10.	Multi parameter measurement system Oxygen Saturation and Heart Rate using Pulse-oximeter	1
11.	DSO	2
12.	Electrodes leads	Each 10
13.	Surface Electrodes	300
14.	Electrolyte gel	3bottles
15.	Simulation tool-to design models	Open source